



SEQUENCE LISTING

<110> New York Medical College

<120> Splice Choice Antagonists as Therapeutic Agents

<130> 51230-00601

<140> 09/849,967

<141> 2001-05-08

<160> 4

<170> PatentIn version 3.3

<210> 1

<211> 1689

<212> DNA

<213> chicken

<220>

<221> misc_feature

<222> (1)..(1689)

<223> Full length cDNA sequence of chicken hnRNP A1.

<220>

<221> misc_feature

<222> (141)..(1276)

<223> Open reading frame of cDNA sequence from chicken hnRNP A1.

<400> 1

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gagttagagt acccttccaa aatggctgct attaaggaag agagagaggt ggaagattac      180
aagagaaaaa ggaagacgat cagcacaggc catgagccta aggagccaga gcagttgaga      240
aagctgttca ttggaggtct gagcttcgag acgacggatg atagcttgag agagcacttt      300
gaaaaatggg gcacactcac ggactgtgtg gtgatgagag acccaciaaac aaaacgttcc      360
agaggctttg gctttgttac ttactcttgc gtggaagagg tggatgcggc catgagcgct      420
cgaccacata aggtggatgg acgtgtggtt gaaccaaaga gacgagtttc aaggaggaggat      480
tctgtaaagc ctggggcgca tctcacagta aagaaaatat ttgttggtgg cattaagaa      540
gatacagaag aatataattht aaggggggtac tttgaaacat atggcaagat cgaaacgata      600
gaagtcattg aagacagaca aagtggaaag aaaagaggct tcgcttttgt aacttttgat      660
gatcacgata cagttgataa aattgttggt cagaaatacc atactataaa tggtcataac      720
tgcaagata aaaaagcact ctcaaaacaa gagatgcaga ctgccagctc tcagagaggt      780
cgtgggggtg gttcaggcaa cttcatgggt cgtggaaatt ttggaggtgg tggaggaaac      840
tttggccgag gaggaaactt tgggtggaaga ggaggctatg ggggtggtgg tggcggtggt      900
gggagcagag gaagctttgg ggggtggtgat ggatacaacg gatttggtga tgggtggcaac      960
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tatggaggtg gtcctggcta tggcagcaga gggggttatg gtggtggtgg aggaccagga	1020
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ggaggcaatt ttggaggtgg taattatgga ggcagtggaa actacaatga ctttggtaac	1140
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agaagttcag gcagtccta tgggtggtggt tatggatctg gaagtggaag tgggggctat	1260
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gaggaactgt aaaatctgcc acagaaggaa cgatgatcca tagtcagaaa agttactgca	1440
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agctttgtct ttcttttttc tttttatttt cccattacat caggtatatt gccctgtaaa	1620
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aaaaaaaaa	1689

<210> 2
 <211> 378
 <212> PRT
 <213> Chicken

<220>
 <221> PEPTIDE
 <222> (1)..(378)
 <223> Amino acid sequence of chicken hnRNP A1

<400> 2

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Arg	Lys	Thr	Ile	Ser	Thr	Gly	His	Glu	Pro	Lys	Glu	Pro	Glu	Gln	Leu
			20					25					30		

Arg	Lys	Leu	Phe	Ile	Gly	Gly	Leu	Ser	Phe	Glu	Thr	Thr	Asp	Asp	Ser
		35					40					45			

Leu	Arg	Glu	Gln	Phe	Glu	Lys	Trp	Gly	Thr	Leu	Thr	Asp	Cys	Val	Val
50						55				60					

Met	Arg	Asp	Pro	Gln	Thr	Lys	Arg	Ser	Arg	Gly	Phe	Gly	Phe	Val	Thr
65					70					75				80	

Tyr	Ala	Thr	Val	Glu	Glu	Val	Asp	Ala	Ala	Met	Ser	Ala	Arg	Pro	His
				85					90					95	

Lys Val Asp Gly Arg Val Val Glu Pro Lys Arg Ala Val Ser Arg Glu
 100 105 110
 Asp Ser Val Lys Pro Gly Ala His Leu Thr Val Lys Lys Ile Phe Val
 115 120 125
 Gly Gly Ile Lys Glu Asp Thr Glu Glu Tyr Asn Leu Arg Gly Tyr Phe
 130 135 140
 Glu Thr Tyr Gly Lys Ile Glu Thr Ile Glu Val Met Glu Asp Arg Gln
 145 150 155 160
 Ser Gly Lys Lys Arg Gly Phe Ala Phe Val Thr Phe Asp Asp His Asp
 165 170 175
 Thr Val Asp Lys Ile Val Val Gln Lys Tyr His Thr Ile Asn Gly His
 180 185 190
 Asn Cys Glu Asp Lys Lys Ala Leu Ser Lys Gln Glu Met Gln Thr Ala
 195 200 205
 Ser Ser Gln Arg Gly Arg Gly Gly Gly Ser Gly Asn Phe Met Gly Arg
 210 215 220
 Gly Asn Phe Gly Gly Gly Gly Gly Asn Phe Gly Arg Gly Gly Asn Phe
 225 230 235 240
 Gly Gly Arg Gly Gly Tyr Gly Gly Gly Gly Gly Gly Gly Ser Arg
 245 250 255
 Gly Ser Phe Gly Gly Gly Asp Gly Tyr Asn Gly Phe Gly Asp Gly Gly
 260 265 270
 Asn Tyr Gly Gly Gly Pro Gly Tyr Gly Ser Arg Gly Gly Tyr Gly Gly
 275 280 285
 Gly Gly Gly Pro Gly Tyr Gly Asn Pro Gly Gly Gly Tyr Gly Gly Gly
 290 295 300
 Gly Gly Gly Tyr Gly Gly Tyr Asn Glu Gly Gly Asn Phe Gly Gly Gly
 305 310 315 320
 Asn Tyr Gly Gly Ser Gly Asn Tyr Asn Asp Phe Gly Asn Tyr Ser Gly
 325 330 335
 Gln Gln Gln Ser Asn Tyr Gly Pro Met Lys Gly Gly Gly Ser Phe Gly
 340 345 350

Gly Arg Ser Ser Gly Ser Pro Tyr Gly Gly Gly Tyr Gly Ser Gly Ser
 355 360 365

Gly Ser Gly Gly Tyr Gly Gly Arg Arg Phe
 370 375

<210> 3
 <211> 320
 <212> PRT
 <213> Homo sapiens

<220>
 <221> PEPTIDE
 <222> (1)..(320)
 <223> Amino acid sequence of human hnRNP A1

<400> 3

Met Ser Lys Ser Glu Ser Pro Lys Glu Pro Glu Gln Leu Arg Lys Leu
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Phe Ile Gly Gly Leu Ser Phe Glu Thr Thr Asp Glu Ser Leu Arg Ser
 20 25 30

His Phe Glu Gln Trp Gly Thr Leu Thr Asp Cys Val Val Met Arg Asp
 35 40 45

Pro Asn Thr Lys Arg Ser Arg Gly Phe Gly Phe Val Thr Tyr Ala Thr
 50 55 60

Val Glu Glu Val Asp Ala Ala Met Asn Ala Arg Pro His Lys Val Asp
 65 70 75 80

Gly Arg Val Val Glu Pro Lys Arg Ala Val Ser Arg Glu Asp Ser Gln
 85 90 95

Arg Pro Gly Ala His Leu Thr Val Lys Lys Ile Phe Val Gly Gly Ile
 100 105 110

Lys Glu Asp Thr Glu Glu His His Leu Arg Asp Tyr Phe Glu Gln Tyr
 115 120 125

Gly Lys Ile Glu Val Ile Glu Ile Met Thr Asp Arg Gly Ser Gly Lys
 130 135 140

Lys Arg Gly Phe Ala Phe Val Thr Phe Asp Asp His Asp Ser Val Asp
 145 150 155 160

Lys Ile Val Ile Gln Lys Tyr His Thr Val Asn Gly His Asn Cys Glu
 165 170 175

Val Arg Lys Ala Leu Ser Lys Gln Glu Met Ala Ser Ala Ser Ser Ser
180 185 190
Gln Arg Gly Arg Ser Gly Ser Gly Asn Phe Gly Gly Gly Arg Gly Gly
195 200 205
Gly Phe Gly Gly Asn Asp Asn Phe Gly Arg Gly Gly Asn Phe Ser Gly
210 215 220
Arg Gly Gly Phe Gly Gly Ser Arg Gly Gly Gly Gly Tyr Gly Gly Ser
225 230 235 240
Gly Asp Gly Tyr Asn Gly Phe Gly Asn Asp Gly Ser Asn Phe Gly Gly
245 250 255
Gly Gly Ser Tyr Asn Asp Phe Gly Asn Tyr Asn Asn Gln Ser Ser Asn
260 265 270
Phe Gly Pro Met Lys Gly Gly Asn Phe Gly Gly Arg Ser Ser Gly Pro
275 280 285
Tyr Gly Gly Gly Gly Gln Tyr Phe Ala Lys Pro Arg Asn Gln Gly Gly
290 295 300
Tyr Gly Gly Ser Ser Ser Ser Ser Tyr Gly Ser Gly Arg Arg Phe
305 310 315 320

<210> 4
<211> 1136
<212> DNA
<213> Chicken

<220>
<221> misc_feature
<222> (1)..(1136)
<223> Open reading frame of cDNA for chicken hnRNP A1

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tctcacagta aagaaaatat ttgttggtgg cattaaagaa gatacagaag aatataat 420
aaggggttac tttgaaacat atggcaagat cgaaacgata gaagtcattg aagacagaca 480

aagtggaaag	aaaagaggct	tcgcttttgt	aacttttgat	gatcacgata	cagttgataa	540
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ctcaaaacaa	gagatgcaga	ctgccagctc	tcagagaggt	cgtgggggtg	gttcaggcaa	660
cttcattgggt	cgtggaaatt	ttggaggtgg	tggaggaaac	tttggccgag	gaggaaactt	720
tggtggaaga	ggaggctatg	ggggtggtgg	tggcggtggt	gggagcagag	gaagctttgg	780
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tggcagcaga	gggggttatg	gtggtggtgg	aggaccagga	tatggaaacc	caggtggtgg	900
atatggaggt	ggaggaggag	gatatggtgg	ctacaatgaa	ggaggcaatt	ttggaggtgg	960
taattatgga	ggcagtggaa	actacaatga	ctttggtaac	tacagtggac	agcagcagtc	1020
caattacggt	cccatgaaag	gtggtggcag	ttttggtggt	agaagtccag	gcagtcacct	1080
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<210> 5
 <211> 10
 <212> RNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)..(10)
 <223> Exonic splice silencer (ESS) nucleic acid sequence for hnRNP A1

<400> 5

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<210> 6
 <211> 10
 <212> RNA
 <213> Chicken

<220>
 <221> misc_feature
 <222> (1)..(10)
 <223> Exonic splice silencer (ESS) nucleic acid sequence for hnRNP A1

<400> 6

uagggagggc	10
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<210> 7
 <211> 8
 <212> PRT
 <213> Homo sapiens

<220>
 <221> SITE

<222> (1)..(1)
 <223> Xaa represents a Lysine or an Arginine

 <220>
 <221> SITE
 <222> (3)..(3)
 <223> Xaa represents a phenylalanine or tyrosine

 <220>
 <221> SITE
 <222> (4)..(4)
 <223> Xaa represents a glycine or alanine

 <220>
 <221> misc_feature
 <222> (7)..(7)
 <223> Xaa can be any naturally occurring amino acid

 <220>
 <221> SITE
 <222> (8)..(8)
 <223> Xaa represents a phenylalanine or tyrosine

 <400> 7

Xaa Gly Xaa Xaa Pro Val Xaa Xaa
 1 5